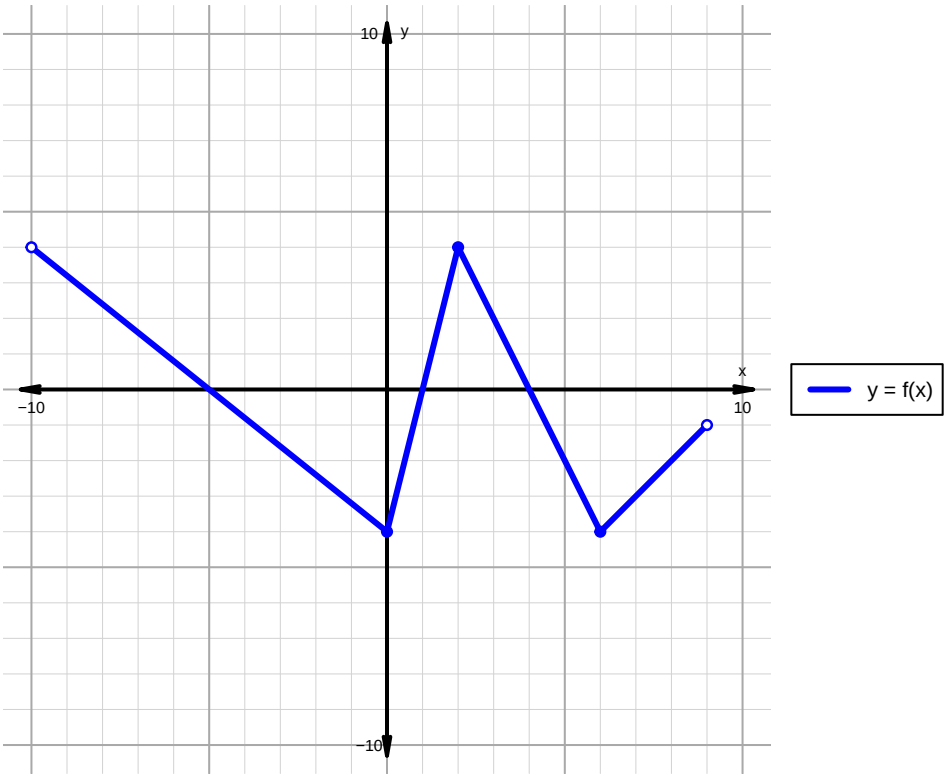
Name: Date:

Intervals, Transformations, and Slope Solution (version 179)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-10,-5)\cup(1,4)$
Negative	$(-5,1)\cup(4,9)$
Increasing	$(0,2)\cup(6,9)$
Decreasing	$(-10,0)\cup(2,6)$
Domain	$(-10,9)$
Range	$(-4,4)$

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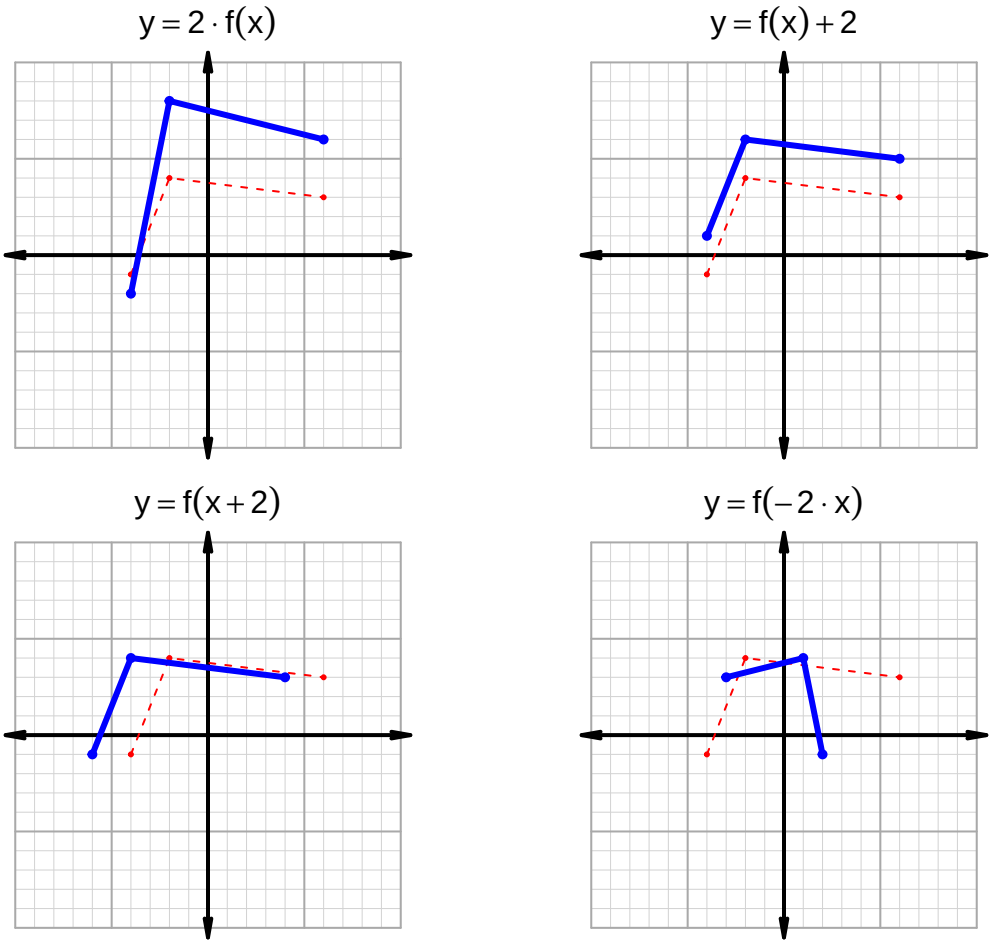
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 21$ and $x_2 = 39$. Express your answer as a reduced fraction.

x	$g(x)$
21	28
28	39
39	91
91	21

$\frac{g(39)-g(21)}{39-21} = \frac{91-28}{39-21} = \frac{63}{18}$

The greatest common factor of 63 and 18 is 9. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{7}{2}$$